

What is claimed is:

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1. A semiconductor device comprising:
 a semiconductor element;
 5 a lead frame having a first surface for mounting said semiconductor element thereon, and a second surface opposite from said first surface;
 a metal block provided on said second surface of said lead frame;
 an insulation layer provided on said metal block opposite said lead frame; and
 a bonding material between said second surface of said lead frame and said
 10 metal block, said bonding material being better in heat conduction than said insulation layer.

TECHNICAL FIELD

2. The semiconductor device according to claim 1,
 wherein said metal block is disposed in opposed relation to said semiconductor
 15 element.

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3. The semiconductor device according to claim 1,
 wherein said metal block has a wider surface than said bonding material
 opposite said bonding material.

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4. The semiconductor device according to claim 1,
 wherein said semiconductor element includes a plurality of semiconductor
 elements, and
 wherein said metal block is separate for each insulated unit between said
 25 semiconductor elements, and is provided in corresponding relation to at least one of said

9. A method of manufacturing a semiconductor device, comprising the steps of:

(a) preparing a semiconductor element;

(b) preparing a first resin in a semi-cured state;

5 (c) covering said semiconductor element and said first resin with a second resin, said step (c) being performed after said steps (a) and (b); and

(d) simultaneously curing said first resin and said second resin, said step (d) being performed after said step (c).

10 10. The method according to claim 9, further comprising the steps of:

(e) preparing a lead frame having a first surface and a second surface opposite from said first surface, and a metal block, said step (e) being performed before said step (c);

15 (f) mounting said semiconductor element on said first surface of said lead frame, said step (f) being performed before said step (c) and after said steps (a), (b) and (e);

(g) providing said metal block on said second surface of said lead frame, with a bonding material therebetween, said step (g) being performed before said step (c) and after said steps (a), (b) and (e); and

20 (h) providing said first resin on said metal block opposite said lead frame, said step (h) being performed before said step (c) and after said steps (a), (b) and (e),

wherein said bonding material is better in heat conduction than said first resin, and

wherein said second resin in said step (c) also covers said lead frame and said metal block while uncovering said first resin.

11. The method according to claim 10,
wherein said first resin comprises a base material with the same base as said second resin, and ceramic powder.